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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/051,544	01/18/2002	Klaus Hummler	01 P 14590 US (8055-115)	9627

7590 08/14/2003

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EXAMINER

MONDT, JOHANNES P

ART UNIT PAPER NUMBER

2826

DATE MAILED: 08/14/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application N .	Applicant(s)	
	10/051,544	HUMMLER, KLAUS	
	Examiner	Art Unit	
	Johannes P Mondt	2826	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 May 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) 1-13 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
 If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: |

DETAILED ACTION***Response to Amendment***

Amendment A filed 5/30/3 and entered as Paper No. 5 forms the basis of this Office Action. In Amendment A Applicant substantially amended all elected claims 14-19. Comments on Remarks appended to said Amendment A are included below under "Response to Arguments".

Response to Arguments

1. Applicant's arguments with respect to claim 14-19 have been considered but are moot in view of the new grounds of rejection of the newly amended claims 14-19.

Claim Rejections - 35 USC § 102

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. ***Claims 14-16 and 18-19*** are rejected under 35 U.S.C. 102(e) as being anticipated by Pogge et al (6,599,778 B2).

On claim 14: Pogge et al teach (cf. Figures 3G and 4E):

a dimple 38 (cf. col. 5, lines 11-20) ground into a back side 1b (cf. Figure 4C and col. 5, line 1 and col. 5, lines 11-15) of a semiconductor substrate 1 (cf. col. 4, line 67);

a trench 39 (cf. col. 5, lines 11-20) extending from the bottom portion of the dimple exposing a portion 22 (cf. col. 5, lines 11-20; cf. Figures 3B, 3G and 4E) of a vertical trench fill 24/26 (cf. Figures 2E and 2F and col. 4, lines 5-41); and

a conductive material 22 (cf. col. 5, lines 11-20) connecting the vertical trench fill and a buried plate 23 (cf. col. 4, lines 5-18). The further limitation that the said trench be "milled" is immaterial to the present device claim.

In conclusion, Pogge et al anticipate claim 1.

On claim 15: the further limitation of claim 15 does not further limit the device, but instead only limits the method of making the device, because those portions of said vertical trench fill and the buried plate wherein the said trench is "milled into" (cf. line 1) are by necessity not part of the final structure.

On claim 16: the conductive material 22, connected as it is, throughout by conductive material, to metal pads 39 (cf. col. 5, lines 15-20), which are directly connected to solder bumps 41 (cf. col. 5, lines 31-35) positioned at the back of the substrate, is a back-side electrode.

On claims 18-19: the macro design (claim 18) and the dimensions (claim 19) of the memory device (cf. col. 2, lines 49-52) are substantially those of a product line macro design, because the device as disclosed in Figures 3G and 4E is a final structure.

Allowable Subject Matter

3. ***Claim 17*** is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The following is a statement of reasons for the indication of allowable subject matter: the conductive material 22 as taught by Pogge et

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al does not cover a portion of the back side 1b of the semiconductor substrate 1 unlike in Figure 3b of Applicant's disclosure.

Conclusion


4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Bruce (6,545,490 B1).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Johannes P Mondt whose telephone number is 703-306-0531. The examiner can normally be reached on 8:00 - 18:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan J Flynn can be reached on 703-308-6601. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

JPM
August 4, 2003



NATHAN J. FLYNN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800